

THE CAMBRIDGE STATISTICS DISCUSSION GROUP

Tuesday 6th February 2007 7:15 for 7:45

Department of Applied Mathematics and Theoretical Physics,
Centre for Mathematical Sciences,
Wilberforce Road,
Cambridge

Influenza: the big, the medium and the small

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Abstract: In this talk, we will go on a tour of some of the different scales of influenza research that have attracted mathematicians recently. Population dynamics is at the biggest end of the scale, and extending classic "SIR" models of disease spread to diseases with multiple strains and antigenic drift has proved surprisingly hard. At the medium scale, life is most familiar to us and we think here about the dynamics of a single host, and transmission between a few hosts. At the tiny end, we have a special interest in influenza packaging signals, which are important for virion assembly as the virus buds from the host cell. All of these scales are thought to be important for fully understanding and controlling influenza.

Speaker: Julia did her first degree and Part III in mathematics in Cambridge, and then became curious about what was going on in biology. Her PhD in the Department of Zoology was on the dynamics of multiple strains of an infectious disease, and her postdoctoral work was mostly on aspects of influenza dynamics and evolution. She now has a small research group in DAMTP working in close collaboration with experimentalists on a number of systems including campylobacter in chickens, salmonella in vitro, influenza packaging signals and of course influenza in a number of species, including horses, humans and chickens. Julia is a University Lecturer, a Royal Society University Research Fellow and a fellow of Queens' College, Cambridge.

Directions: The main entrance is reached from Clarkson Road by going along the footpath to the right of the Newton Institute, and turning left through the gatehouse towards the main building (Pavilion A), which has a glass front and a curved grassed roof. The main entrance is in the middle of the glass front. Free Parking is available after 5pm on Clarkson and Wilberforce Roads and by entering the site off Wilberforce Road. Admittance may be difficult after 7:45.

Provisional Next Meetings:

7th March – Zoubin Ghahramani (Engineering) on 'Retrieving Information using a Bayesian Model of Generalization'.

4th April – Sue Welham (Rothamsted).

Supper: Some members eat regularly in the University Centre before each meeting at **5-45pm**. Feel free to join them.

Subscriptions: of 1 pound are now due for attending the 2006-2007 session.

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